College of Europe
Collège d'Europe
Brugge Natolin

ECTS CARD

STUDY PROGRAMME	ACADEMIC YEAR	SEMESTER
ECO-ELEA, LAW-ELEA	**2020 - 2021**	**1**

COURSE TITLE

Law & Economics of Multi-Sided Markets

COURSE PROFESSOR	COURSE ASSISTANT
PAUL BELLEFLAMME & NICOLAS PETIT	**Diego VILLAFÁÑEZ SAGARDOY**

NATURE OF COURSE (COMPULSORY, OPTIONAL)	LANGUAGE OF INSTRUCTION
COMPULSORY	**ENGLISH**

ECTS CREDITS

4.5

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1. COURSE OBJECTIVE

Digital platforms are permeating a growing number of sectors of the economy, reshaping the way we consume, work and interact. On the one hand, many markets are being disrupted as a result of new business models, form factors and technologies like artificial intelligence and machine learning, the Internet of Things, distributed ledgers (e.g., blockchain), sensors and robotics. On the other hand, policymakers find it challenging to keep track with the breathtaking pace of innovation, emergent market conduct and new forms of social concerns.

This course provides an overview of how multisided platforms are reshaping the way consumers and firms interact in markets, and its impact on economic welfare, antitrust enforcement and regulatory policy.

2. LEARNING OUTCOMES

Upon completion of the course, students should have achieved the following outcomes:

- Familiarity with the economics of networks, multisided platforms and information goods.
- Understanding of the welfare and harm consequences of multisided platforms.
- Insight on how to approach antitrust and regulatory policy for the specific setting of multisided platforms.
- Familiarity on innovative regulation related to multisided platforms.

- Ability to assess the competition law and economics impacts of the ongoing digital technological evolution.
- Most importantly, the ability to go beyond memorising economic concepts, but rather to use them to shape arguments on the economics of the digital economy.

The learning outcomes for this course tie in with the following learning outcomes for the European Economic Studies programme:

- Use economic theory to assess current problems and policies, with specific relationship to digital innovation and its associated business models.
- Understand the normative assumptions, implications and limitations of economic theory and economic policy making.
- Integrate knowledge of related disciplines (e.g. EU law, but also machine learning and computer science) into the domain-specific knowledge of the economics of digital innovation.
- Demonstrate knowledge of the European Union' institutions, competences and substantive principles; as well as their interaction with Member States' legislative powers, and private governance.
- Think innovatively and provide constructive analytical commentary on how the evolution of EU rules and policies may impact on future market development.
- Describe, explain and illustrate the core normative assumptions, implications and limitations of legal theory and political science theory related to economics.
- Use knowledge of economics, legal principles, strategic management and political science to analyse contemporary public policy problems.
- Work together in groups to solve problems, share tasks, prepare assignments, go through case studies and make presentations.
- Recognise, analyse, explain and critique economic developments and economic policies in Europe.
- Find, select, critically evaluate and use references, data and other sources of information within a short amount of time.

3. COURSE CONTENTS

The course is made of two closely interrelated parts:

- The first part is concerned with the *economic* analysis of multisided platforms and is taught by *Paul Belleflamme*.
- The second part is concerned with the *legal* analysis of multisided platforms and is taught by *Nicolas Petit*.

Part 1. Economic analysis of multisided platforms

In this part, we use the tools of the theory of industrial organization to study *how digital platforms transform markets*. Digital platforms transform markets in two major ways: on the one hand, they create new markets altogether; on the other hand, they shape the structure of information—and thus, the performance—of many existing markets. We study the creation of new markets in Sessions 1 and 2, and the impacts on existing markets in Session 3, 4 and 5.

Session 1 – Digital platforms as market creators: An introduction

Topics

- Definition and typology of digital platforms
- Platforms vs. Pipelines
- Network effects

Readings

- Belleflamme, P. and M. Peitz (2020). *The Economics of Platforms* (book manuscript in preparation for Cambridge University Press).
    - Chapter 1. Platforms: Definitions and Typology
    - Chapter 3. An Economic Primer on Network Effects
    - Chapter 4. Establishing a Platform
        - Section 4.1. Platform or not platform?

Session 2 – Digital platforms as market creators: Strategies

Topics

- Launching a platform: the chicken-and-egg problem
- Pricing by multisided platforms
- Non-price strategies of multisided platforms

Readings

- Belleflamme, P. and M. Peitz (2020). *The Economics of Platforms* (book manuscript in preparation for Cambridge University Press).
    - Chapter 4. Establishing a Platform
        - Section 4.2. The chicken-and-egg problem
    - Chapter 5. Platform pricing
    - Chapter 6. Platform design
        - Section 6.2.1. Examples of design decisions

Session 3 – Digital platforms and information about prices

Topics

- Price competition with informed and uninformed buyers
- Price comparison intermediaries
- Algorithmic pricing

Readings

- Belleflamme, P. and M. Peitz (2020). *The Economics of Platforms* (book manuscript in preparation for Cambridge University Press).
    - Chapter 6. Platform design
        - Section 6.1. Another look at price strategies and network benefits
- Calvano, E., G. Calzolari, V. Denicolò and S. Pastorello (2019) Algorithmic Pricing What Implications for Competition Policy? Review of Industrial Organization 55: 155-171.

Session 4 – Digital platforms and information about quality

Topics

- Information asymmetry: basic economic analysis
- Rating, reviews systems
- Recommender systems

Readings

- Belleflamme, P. and M. Peitz (2020). *The Economics of Platforms* (book manuscript in preparation for Cambridge University Press).
    - Chapter 2. Ratings, recommendations and the use of big data
    - Chapter 6. Platform design
        - Section 6.2.2. Quality control and seller competition
        - Section 6.2.3. Designing rating and recommender systems

Session 5 – Digital platforms and information about consumers

Topics

- Differential pricing and big data
- Competitive differential pricing
- Privacy

Readings

- Belleflamme, P. and M. Peitz (2020). *The Economics of Platforms* (book manuscript in preparation for Cambridge University Press).
    - Chapter 6. Platform design
        - Section 6.2.4. Platform governance regarding the sellers' price instruments
- Ganuza, J.J. and G. Llobet (2019). Personalized Prices in the Digital Economy. In Ganuza, J.J. and G. Llobet (Eds). *Economic Analysis of the Digital Revolution*. FUNCAS Social and Economic Studies 5. Funcas: Madrid, Spain.

Part 2. Legal analysis of multisided platforms

In this part, we discuss the application of the theory of multisided markets in antitrust and regulatory law and policy. We use mostly the tools of the law and economics method. The course will occasionally make incursions in the business and management science literature. There are five sessions in this part of the course. Some include case studies.

Session 1 – Multi-sided markets: Definitions and Concepts

Topics

- Chicken and Egg Problem
- Indirect network effects

- Money and subsidy sides
- Tipping and Critical Mass
- Increasing Returns, Disequilibrium and Uncertainty
- Bypass, Coasian bargaining
- Business Model
- Consumer welfare

Readings

- Tirole, Market Failures and Public Policy, American Economic Review 2015, 105(6): 1665–1682 (excl. Section III on Intellectual Property)
- Arthur, W. Brian. "Competing technologies, increasing returns, and lock-in by historical events." The economic journal 99.394 (1989): 116-131.
- Thomas Schelling, Micromotives and Macrobehavior, Chapter 3: Thermostats, Lemons, and Other Families of Models
- Auer, D., & Petit, N. (2015). Two-sided markets and the challenge of turning economic theory into antitrust policy. The Antitrust Bulletin, 60(4), 426-461.

Session 2 – Market Definition in Multi-sided Environments

Topics

- SSNIP test
- Transaction and non-transaction platforms
- Zero price markets, and quality adjustments
- Single markets and ecosystems
- Attention markets

Readings

- Ohio v. American Express Co., 585 U.S. ___ (2018).
- Filistrucchi, L., Geradin, D., Damme, E. V., & Affeldt, P. (2014). Market definition in two-sided markets: Theory and practice. Journal of Competition Law & Economics, 10(2), 293–339
- Katz, Michael L. "Platform economics and antitrust enforcement: A little knowledge is a dangerous thing." Journal of Economics & Management Strategy 28.1 (2019): 138-152.

Session 3 – Multi-sided Theories of Harm and Objective Justifications

Topics

- Price and non-price restrictions
- MFNs
- No surcharge and no bypass rules
- Procompetitive coordination on the money side
- Excessively low prices on the subsidy side

Readings

- *Edelman, Benjamin, and Julian Wright. "Price Restrictions in Multi-sided Platforms: Practices and Responses." Competition Policy International 10.2 (2014): 87-101.*
- *Nicolas Petit, Big Tech and the Digital Economy, The Moligopoly Scenario, OUP 2020, Chap V*
- *Kotapati, Bapu and Mutungi, Simon and Newham, Melissa and Schroeder, Jeff and Shao, Shili and Wang, Melody, The Antitrust Case Against Apple (May 20, 2020). Available at SSRN: https://ssrn.com/abstract=3606073 or http://dx.doi.org/10.2139/ssrn.3606073*
- *Google Shopping, Summary of Commission decision of 27 June 2017 relating to a proceeding under Article 102 of the Treaty on the Functioning of the European Union and Article 54 of the EEA Agreement*

Session 4 – Remedies in Multi-Sided Environments: Antitrust and Regulation

Topics

- Theory of antitrust and regulation
- Threshold rules for intervention
- Divestitures, interoperability, must carry, line of business restrictions, etc
- Towards a special antitrust regime?
    - Procompetitive price coordination on money side
    - Anticompetitive low prices on subsidy side

Readings

- Breyer, Stephen G., and Stephen G. Breyer. Regulation and its Reform. Harvard University Press, 2009, Chap VIII
- Alexiadis, P. and de Streel, Alexandre, Designing an EU Intervention Standard for Digital Platforms (February 26, 2020). Robert Schuman Centre for Advanced Studies Research Paper No. 2020/14, Available at SSRN: https://ssrn.com/abstract=3544694 or http://dx.doi.org/10.2139/ssrn.3544694
- Michal Gal and Nicolas Petit, Radical Remedies for Digital Markets, Forthcoming, BJLT, 2021

Session 5 – Unconventional Legal Applications of Multi-Sided Market Theory

Topics

- Labor markets
- Energy infrastructure
- Standard setting organisations

Readings

- Prospective session, no readings required

4. TEACHING METHOD(S)

The teaching will be done in the form of lectures by the professors. A number of guest lecturers will be invited or will join remotely where appropriate. Students are expected to actively participate through presentations of small cases and in-class debate. The course, initially "frontal", becomes extremely interactive over time.

Prior reading of documents (academic articles, cases, reports, etc.) before each session is highly recommended. The papers will be discussed as the course progresses.

5. COURSE MATERIAL

Lectures and papers to be distributed before class to the students. The complete reading list will be made available on the course intranet page.

6. EVALUATION

The final grade of the course will be composed of: 100% written open book exam. The evaluation will be based on an open-book written exam, three hours in length, which will take place during the first examination session. The open-book exam will consist of two sets of questions: students will be asked to choose one from each set.

For students who do not pass the course in this way, there will be an exam in the second session examinations, which according to the Study Regulations counts for 100 % of the final grade.